

MULTIMEDIA



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STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019/2020

PIM0245 – INTRODUCTION TO MULTIMEDIA TECHNOLOGY

(Foundation in Information Technology)

7 MARCH 2020
2.30 p.m. – 4.30 p.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of THREE pages (excluding the cover page).
2. Answer ALL questions.
3. Write your answers in the Answer Booklet provided.

Instructions: Answer all questions. Write your answers in the Answer Booklet.

QUESTION 1 [10 Marks]

- a. What is multimedia? List and describe briefly **TWO (2)** types of multimedia. (4 marks)
- b. Google Earth is one of the examples of multimedia application used widely nowadays. Which is the suitable group of multimedia product for Google Earth and list **ONE (1)** characteristic of this group. (1.5 marks)
- c. Multimedia system is a system which is capable to process multimedia data and applications. List and explain briefly **TWO (2)** components required in a multimedia system. (3 marks)
- d. Estimating cost is one of the important step in developing a multimedia project. Identify **THREE (3)** elements that can vary in this project estimates. (1.5 marks)

QUESTION 2 [10 Marks]

- a. Background and texture is one of the components used in designing multimedia interfaces. What is the function of a multimedia interface? Give **ONE (1)** suggestion to choose a background for LCD projector display. (2 marks)
- b. Why is it important to design the navigation structure for a multimedia project? (1 mark)
- c. Text is one of the elements used to convey information in a multimedia system and application. State **TWO (2)** viewpoints or perspectives that developers are concerned with text. (2 marks)
- d. What is font mapping? Suggest **ONE (1)** technique that can be used to resolve this process. (2 marks)
- e. Animation is different with video as its contains a series of drawing images. List and explain briefly **TWO (2)** techniques used in computer animation. (3 marks)

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QUESTION 3 [10 Marks]

- a. Jimmy is designing a commercial poster for a website where the image resolution required is 200-pixel by 800-pixel and the colour depth is 24 bits.
- i. Jimmy will compress the poster as PNG (Portable Network Graphic) file format. Write **THREE (3)** characteristics of the selected file format. (3 marks)
- ii. Calculate the estimated file size of the banner in MB. Show the calculation in details. (2 marks)
- b. A multimedia authoring system consists of tools and software to provide the important framework for organizing and editing the elements of a multimedia project, including graphics, audios, animations, and videos.
- i. Explain briefly the difference between authoring tools and authoring software. (2 marks)
- ii. Editing, playback and interactivity is the most common feature included in an authoring tool. Describe briefly each of these features. (3 marks)

QUESTION 4 [10 Marks]

James is assigned to develop a multimedia product for a company to enable their visitors to access information. This product is designed to operate constantly with the least maintenance cost and will be located at several main areas of the company. The visitors will be able to access the information displayed in the main menu such as list of services offered by the company, office location, operation time and contact person. A home button will be included in the product for the visitors to return back to the main menu.

- a. Help James to identify the **BEST** group of multimedia product developed. State **TWO (2)** characteristics of the selected group. (2.5 marks)
- b. In multimedia development process, testing can be done in two phases which are usually known as alpha testing and beta testing. What is the main interest of conducting these two tests? (2 marks)
- c. Identify the navigation structure for the above product and draw the structure to support your answer. (5.5 marks)

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QUESTION 5 [10 marks]

Sam is developing a 1-minute animation clip for his society activities. The clip will include all of the multimedia elements such as text, video, various images and an audio. The frame size is decided as 240 by 180 and will be developed according to Phase Alternate Line (PAL) standard with 24-bit of colour resolution.

- a. Calculate the estimated size for this video. Use the information below to calculate the estimated audio file to be included in this video.

(6 marks)

Sampling rate	Sound Resolution	Channel
44.1 Khz	16-bit	Stereo

- b. Digital audio is becoming an important part of multimedia elements as it adds the dimension to the multimedia application. List **TWO (2)** advantages of using digital audio in multimedia content development.

(2 marks)

- c. There are several different categories of multimedia authoring tools used to develop multimedia application. State the difference between card-based or page-based tools and Time-based tools.

(2 marks)